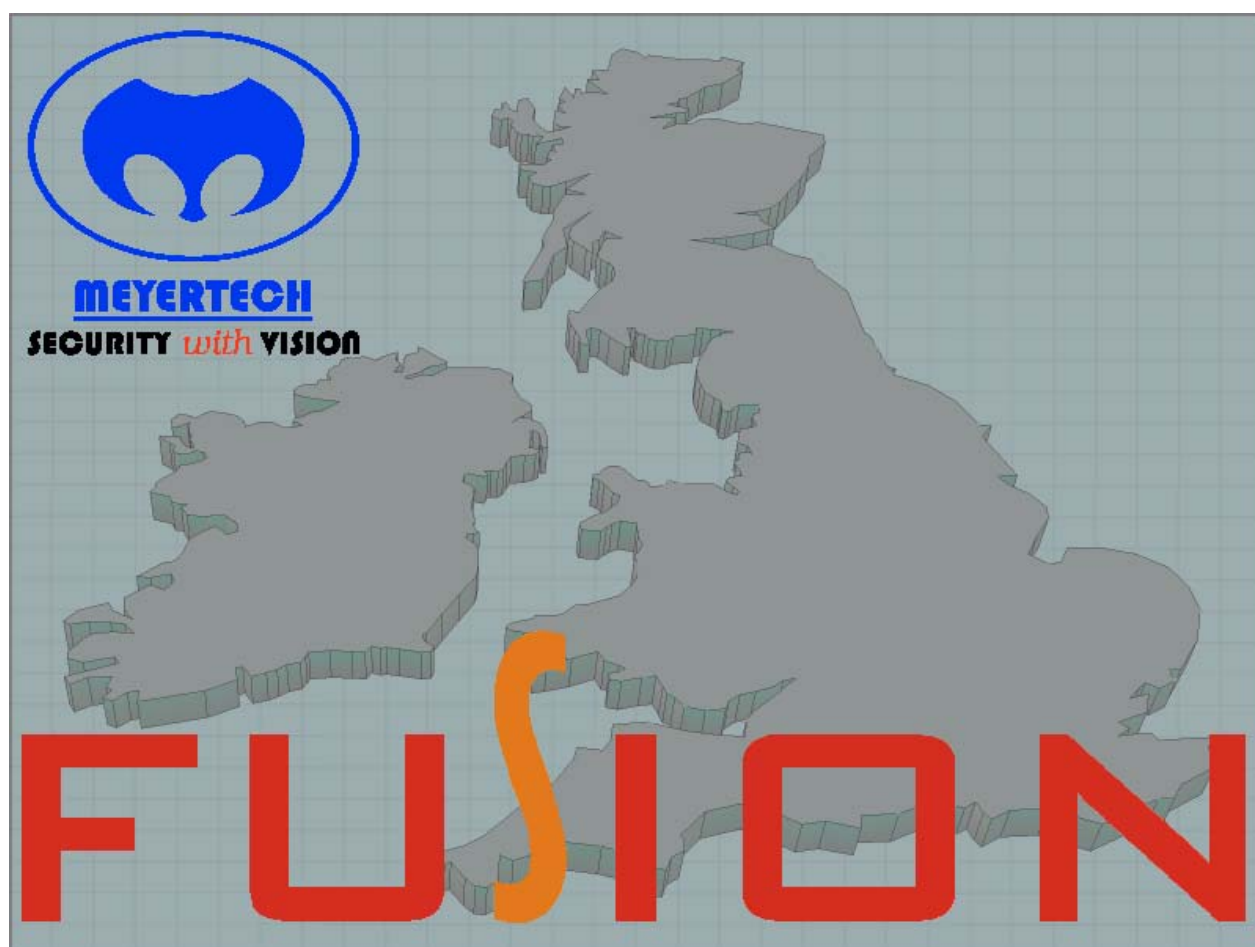


FUSION

FUSION ALARM INSTALLATION GUIDE



FUSION ALARM

Fusion Alarm Installation Guide

Issue 02

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Introduction

Thank you for purchasing Meyertech's FUSION ALARM software. Please read this user guide prior to using FUSION ALARM.

What is Fusion Alarm?

FUSION ALARM is a software application developed by Meyertech to help manage contact alarm sources efficiently and effectively.

FUSION ALARM is an application that provides an interface for 3rd party contact alarms to be integrated into the ZoneVu system architecture.

The features described in this manual refer to :

Version 1.0.0.0 of the FusionAlarm Application

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KEY FEATURES

- FUSION ALARM HELPS INTEGRATE LARGE SCALE CONTACT ALARMS INTO THE ZONEVU ARCHITECTURE
- FUSION ALARM MAKES IT POSSIBLE TO CONFIGURE EACH LINE OF DIGITAL INPUT OR OUTPUT

Fusion Alarm Overview

Fusion Alarm Digital I/O Cards

The Digital I/O cards that are currently supported by Meyertech Fusion Alarm are:

- Advantech PCL-722 and compatible cards
 - 18 Channels @ 8 bits per channel

Fusion Alarm Modes

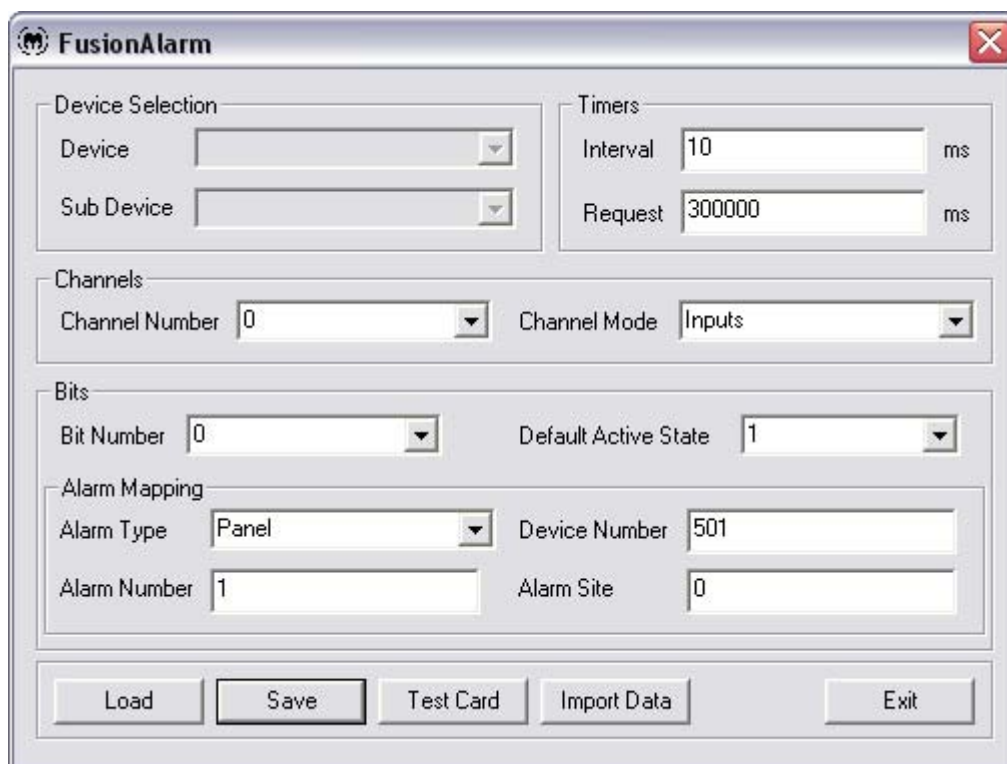
Fusion Alarm executes in two different modes. The modes of execution for Fusion Alarm are as follows:

- Configuration mode
- Active alarms view

Configuration Mode

Configuration mode is the initial screen displayed when FUSION ALARM is started from Windows and the “Fusion Alarm Configuration” shortcut has been selected.

If FUSION ALARM is started from the command line then the application must be started with the command line parameter “/config” in order for the application to enter configuration mode. Without the command line parameter the application would launch automatically with the active alarms view.



The screenshot shows the FusionAlarm Configuration window. It has a title bar with the FusionAlarm logo and a close button. The window is divided into several sections:

- Device Selection:** Two dropdown menus for "Device" and "Sub Device".
- Timers:** Two input fields: "Interval" (set to 10) and "Request" (set to 300000), both with "ms" units.
- Channels:** Two dropdown menus: "Channel Number" (set to 0) and "Channel Mode" (set to Inputs).
- Bits:** Two dropdown menus: "Bit Number" (set to 0) and "Default Active State" (set to 1).
- Alarm Mapping:** Four input fields: "Alarm Type" (set to Panel), "Device Number" (set to 501), "Alarm Number" (set to 1), and "Alarm Site" (set to 0).

At the bottom of the window, there are five buttons: "Load", "Save", "Test Card", "Import Data", and "Exit".

Device Selection

The device selection section of the FUSION ALARM configuration screen currently has no function. Both of the drop down lists that are used to specify the device and sub-device are disabled. This device selection is a future development.

Currently the default device that is used with FUSION ALARM is the Advantech PCL-722 Digital I/O Card.

Timers

The Interval is the time in between polls (in milliseconds). Each active channel will be polled in turn and the default scan time is 10 milliseconds. The scan time may not be less than 10 milliseconds. In the event that the scan time is less than 10 milliseconds the default value will again be used.

The Request timer is used to specify the regularity with which all alarms are re-requested. This re-request functionality is important in making sure that the ZoneVu alarms continue to stay synchronized. If the value here is set to 0 then the alarms will never be re-requested and this functionality will be ignored.

Channels

In the channel section it is possible to select each of the channels that are available for the currently selected device. For each of channels it is possible to specify whether the channel will be an Input, Output or Inactive channel.

If the channel is set as an Output then the data for the particular channel will be *sent* every time the channel is polled for a response. If the channel is set as an Input then the data will be *read* every time the channel is polled. Otherwise, if the channel is set to Inactive the channel will be ignored by FUSION ALARM and will never be polled.

Bits and Alarm Mapping

The bits are numbered from 0-7. Each of the individual bits of the Digital I/O card can also be configured. Depending on the choices made for the setup of the channel the bit configured here are used in different ways.

Each bit has a default active state which is used to check if the current bit is in a state of alarm. This value is used *only* if the current bits channel is set as an Input channel. In this case this state is used when the input states from the card are initially requested, and also when the input states are re-requested. If the active state matches the state that is received for the particular bit, then the alarm condition is true and the configuration for the rest of the bit is used to send a ZoneVu Alarm.

The remaining bit information describes the Alarm to the ZoneVu architecture. The Alarm Type is also used *only* if the current channel is set as an Input. It is used to describe the type of alarm that should be raised / cleared when the bit changes state. The types of supported alarms are None, camera, peripheral and panel.

The site number should be set to 0 for all local alarms.

The device number and the alarm number are used to complete the description of the alarm to be raised / cleared. The data provided for each of these attributes will be used if the channel is specified as either an Input or an Output. Please see the section "ZoneVu System Integration" for more detail.

Button Bar

The button bar offers functionality to Load a configuration from the FUSION ALARM data file which is located here:

C:\Meyertech\FusionAlarm\Data\FusionAlarms.dat

It is also possible to save any changes made to the configuration or to import a totally new configuration from a CSV file. If the import option is selected, it is important to note that the existing data held for the application will be permanently overwritten.

As well as the data functions we can also test the card (see Active Alarms View for more information) or exit the application from the button bar.

Active Alarms View

The Active Alarms View is the initial screen displayed when FUSION ALARM is started from Windows and the “Fusion Alarm” shortcut has been selected.

If FUSION ALARM is configured to start automatically on the workstation then it will be this view that is presented to the operator. To find out how to launch FUSION ALARM in configuration mode, please read the previous section.

Device Information

The device information section allows the user to select a specified device and sub device (if applicable) with which to launch FUSION ALARM. The devices that are available for selection here are supported devices only.

Timer

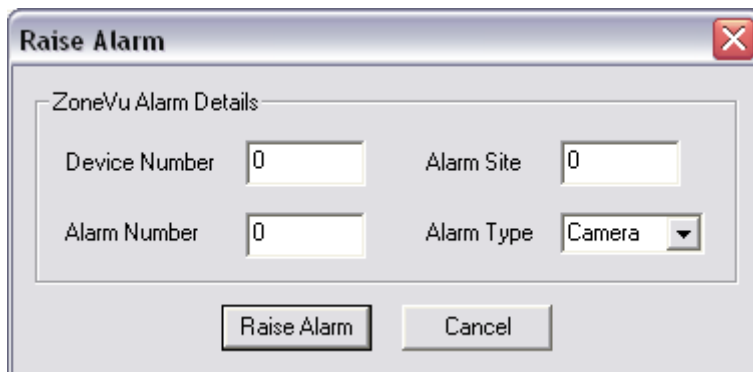
The timer displays the user specified time in milliseconds that will elapse before the application polls the next channel. It is important to note that the lower the interval the more intense the application will be on the CPU.

Options

The options section provides the ability to start and if started, stop the scanning of the card. Also provided is an option to exit

the application. If the user chooses to exit the application and the card is still being scanned by the application. The application will stop scanning the card before exiting the application.

The fake button can be pressed in order for a fake alarm to be sent on to the ZoneVu architecture. The raise alarm screen will be displayed when the fake button has been pressed. The raise alarm screen allows the alarm that is to be raised to be configured to meet the needs of the user.

A screenshot of a 'Raise Alarm' dialog box. The dialog has a title bar with the text 'Raise Alarm' and a red close button. Inside the dialog, there is a section titled 'ZoneVu Alarm Details'. This section contains four input fields: 'Device Number' with the value '0', 'Alarm Site' with the value '0', 'Alarm Number' with the value '0', and 'Alarm Type' with a dropdown menu showing 'Camera'. At the bottom of the dialog, there are two buttons: 'Raise Alarm' and 'Cancel'.

Alarm Card Traffic

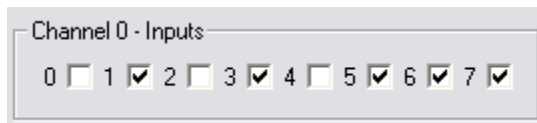
In this section all of the channels for the card are displayed (channels 0-17) and each of the bits for each of the channels are also displayed. In the title of each channels section, the text specifies whether the specific channel is used for Inputs, Outputs or is Inactive. If the channel is inactive then the bit boxes are grayed out and the channels information will never be updated.

The Inputs will be displayed and will continue to update every time the particular channel is polled. The outputs on the other hand are used in a different way. It is possible to use this GUI as a test container for the outputs. Simply click an individual output bit and the state for this bit will be transmitted to the card the next time it is polled. Outputs also support ZoneVu relay commands. More information on how this process works can be found in the section ZoneVu System Integration.

ZoneVu System Integration

Input Channels

The inputs will be updated every time a particular channel is updated. To explain how these inputs retrieved from the card are utilized by the ZoneVu system here is an example.



Channel 0 - Inputs

0	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	2	<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>	6	<input checked="" type="checkbox"/>	7	<input checked="" type="checkbox"/>
---	--------------------------	---	-------------------------------------	---	--------------------------	---	-------------------------------------	---	--------------------------	---	-------------------------------------	---	-------------------------------------	---	-------------------------------------

In this case bits 0, 2 and 4 are displayed as inactive and the other bits are displayed as active. FUSION ALARM checks if any of the bits specified here have entered into an active state or alternatively, have become inactive. If this is the case then the configuration for the specified bit is referenced and a ZoneVu alarm protocol is generated to match the alarm specified for this bit in the configuration. This is then transmitted via the serial port and the alarm then enters the standard ZoneVu architecture (see ZoneVu product manuals for more information).

Output Channels

The output channels status will be read every time the channel is polled. There are two methods of setting the checks for the outputs. The first method is to physically click the required bit's tick box and the next time this channel is polled the new outputs will be sent to the card.

The second method allows the outputs to be modified from FUSION. If relay commands are sent from FUSION it is possible in the configuration to specify the Device Number and the Alarm Number for a specific output bit. If FUSION ALARM receives a relay message it attempts to match the message with any of its configured output bits. If it finds a match then the specified bit will change state and the new states will be read the next time the channel is polled.

Please note that a checked check box indicates that the relay is on (as oppose to off) and does not display whether the relay is currently in an active state.

Registry Settings

Registry Editor

The registry holds some configuration data for FusionAlarm. To access the registry editor press “Start” and then “Run”. At the prompt type “regedit” and press enter. The application will then launch.

Once the registry editor has loaded, navigate to the following registry key:

HKEY_CURRENT_USER\Software\Meyertech\FusionAlarm

This is the main registry key for the FusionAlarm settings; it has two sub keys that are described below.

Communications Key

HKEY_CURRENT_USER\Software\Meyertech\FusionAlarm\Communications

Inside the communications key there is a single value. This value is called “Port” and is of type DWORD. This value represents the communications port that is to be used for all serial communications for FusionAlarm.

Diagnostics Key

HKEY_CURRENT_USER\Software\Meyertech\FusionAlarm\Diagnostics

Inside the diagnostics key there is a single value. This value is called “Type” and is of type DWORD. This value represents the type of diagnostics that will be logged whilst FusionAlarm is running. A value of 0 represents no diagnostics and a value of 1 represents diagnostics to be logged to file. See the diagnostics section for more detail on this subject.

Diagnostics

If the diagnostics registry entry has been enabled, FusionAlarm will log entries to a log file. The log file used to store these entries will be stored in the following location:

C:\Meyertech\FusionAlarm\Diagnostics\FusionAlarm.txt

Note: As FusionAlarm is always writing information to the log file, the FusionAlarm application needs to be closed in order for the contents of this log file to be analysed.

Each logged message includes a time stamp and a message token. Below is a list of messages that are logged by FusionAlarm. The messages list the token used in the log file and the extra parameters that are logged for each log message.

Application Start

This log entry uses the message token 'APPLICATION_START' and is used to signify the start of the FusionAlarm application. This message token has no further parameters. In the log file this message could appear as follows:

** 25/12/2005,12:00:00 **, APPLICATION_START

Application End

This log entry uses the message token 'APPLICATION_END' and is used to signify the end of the FusionAlarm application. This message token has no further parameters. In the log file this message could appear as follows:

** 25/12/2005,12:00:00 **, APPLICATION_END

Physical Relay Change

This log entry uses the message token 'INPUTS_PHYSICAL_RELAY_CHANGE' and is used to show that the alarm source has registered a change on the relay unit connected to the workstation. The message token has 3 parameters, these represent the channel number and bit number of the relay and also the state to which the relay changed. The state is represented by TRUE and FALSE where TRUE is ON and FALSE is OFF (this does not take into account the default active state of the relay in question, only the actual physical state of the relay). In the log file this message could appear as follows:

++ 25/12/2005,12:00:00 ++, INPUTS_PHYSICAL_RELAY_CHANGE, Channel : 10, Bit : 1, State : TRUE

Alarm Broadcast

This log entry uses the message token 'INPUTS_ALARM_BROADCAST' and is used to show that an alarm has been sent from FusionAlarm via the serial port. This is a response to a physical relay so the two input messages should be together in the log file. The message token has 6 parameters, these represent the channel number and bit number that the alarm is being raised for, the device number, alarm number and site number of the alarm to fire and also the state of the alarm sent. The state is represented by TRUE and FALSE once more. *In this occurrence TRUE represents an active alarm (meaning the relay was in an active state) and FALSE represents a deactivated alarm.* In the log file this message could appear as follows:

++ 25/12/2005,12:00:00 ++, INPUTS_ALARM_BROADCAST, Channel : 10, Bit : 1, Device : 11, Number : 1, Site : 501, State : TRUE

Relay Packet Received

This log entry uses the message token 'OUTPUTS_RELAY_PACKET_RECEIVED' and is used to show that a ZoneVu relay message has been received via the serial port. The token begins with the term output because although the ZoneVu relay actually comes into FusionAlarm, it triggers an output. The message token has 3 parameters; these represent the device number and relay number of the relay message and the state of the relay message. The state is represented by TRUE and FALSE where TRUE represents an active ZoneVu relay message. In the log file this message could appear as follows:

-- 25/12/2005,12:00:00 --, OUTPUTS_RELAY_PACKET_RECEIVED, Device : 11, Number : 1, State : TRUE

Bit Change

This log entry uses the message token 'OUTPUTS_BIT_CHANGE' and is used to show that the appearance of a bit has been modified on the screen. The cause of this is due to a ZoneVu relay message being received and effectively altering the state of a particular bit. This means that the relay packet received log entry and the bit change entry should be together in the log file. The message token has 3 parameters; these represent the channel and bit number that have had their visible state altered and also the state to which it has changed. In the log file this message could appear as follows:

-- 25/12/2005,12:00:00 --, OUTPUTS_BIT_CHANGE, Channel : 7, Bit : 4, State : TRUE

Manual Click

This log entry uses the message token 'MANUAL_CLICK' and is used to signify that a user has manually altered one of the check boxes for an output. User operation could affect the way in which FusionAlarm works within a CCTV system. It is logged to ensure that all possible operations are added to the log file. The message token has 3 parameters; these represent the channel and bit number that have been clicked and also the state to which it has been changed. In the log file this message could appear as follows:

** 25/12/2005, 12:00:00 **, MANUAL_CLICK, Channel: 16, Bit : 7, State : FALSE

Servicing and Support

Servicing

See your FUSION manual.

Returns Procedure

See your FUSION manual

Support

Meyertech offer comprehensive levels of support during the product's warranty period. Our support team will be happy to help with any problem you may experience relating to the installation or operation of FUSION ALARM

1. Telephone support (+44(0)161 628 8406), which is available during normal office hours 9AM – 5PM Monday to Friday excluding Bank holidays. This support is free of charge.
2. Email support. Available 24 hours a day. Our normal response to emails is next working day. This support is free of charge. support@meyertech.co.uk
3. By Facsimile (+44(0)161 628 9811). Available 24 hours a day. Our normal response to facsimiles is next working day. This support is free of charge.
4. Site visits. Subject to availability, our engineers are available to attend site to assess and help with particular system problems firsthand. This service is chargeable. Please contact our Support department on +44(0)161 628 8406 for further details and availability.

Meyertech offer Extended Support Contracts on all their software products. Please contact our Sales department on 0161 628 8406 to discuss your requirements or visit our website www.meyertech.co.uk

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Meyertech Limited is a member of the CCTV User Group.

Warranty

Please refer to Meyertech Limited 'Terms & Conditions of Sale of Goods & Services' for interpretation.

1. If the Buyer establishes to the Seller's reasonable satisfaction that there is a defect in the materials or workmanship of the Goods manufactured, then the Seller shall at its option, at its sole discretion and within a reasonable time,
 - a. arrange for the repair or making good such defect or failure in such Goods free of charge to the Buyer (including all costs of transportation of any Goods or materials to and from the Buyer for that purpose),
 - b. replace such Goods with Goods which are in all respects in accordance with the Contract, or

subject, in every case, to the remaining provisions of this Condition 1 provided that the liability of the Seller under this Condition 1 shall in no event exceed the purchase price of such Goods and performance of anyone of the above options shall constitute an entire discharge of the Seller's liability under this warranty.

2. Condition 1 shall not apply unless the Buyer:
 - a. notifies the Seller in writing of the alleged defect within 12 (twelve) months from delivery or such other period or periods as may be agreed in writing between the Seller and the Buyer, and
 - b. allows the Seller a reasonable opportunity to inspect the relevant Goods.
3. For the avoidance of doubt, the Seller shall be under no liability under the warranty in Condition 1 above:
 - a. where such defects arise from any drawing, design or specification supplied by the Buyer; or
 - b. where such defects arise from fair wear and tear, wilful damage, or negligence of a party other than the Seller (or its employees or authorised personnel), abnormal working conditions, failure to follow the Seller's instructions (whether oral or in writing), misuse or alteration or repair of the Goods without the Seller's approval; or
 - c. where such defects arise in parts, materials or equipment which have not been manufactured or designed by the Seller but have been purchased at the Buyer's request by the Seller from the Buyer's designer and manufacturer or from some other third party (the **"Third Party Supplier"**).
 - d. if the total price of the Goods has not been paid by the due date for payment
 - e. in respect of any type of defect, damage or wear specifically excluded by the Seller by notice in writing; or
 - f. if the Buyer makes any further use of the Goods after giving notice in accordance with Clause 1
4. Any repaired or replaced Goods shall be redelivered to the Buyer free of charge to the original point of delivery but otherwise in accordance with and subject to these Conditions.
5. Alternatively to Condition 1 the Seller shall be entitled at its absolute discretion on return of the defective Goods to the Seller (at the Seller's request) to refund the price of the defective Goods in the event that such price shall already have been paid by the Buyer to the Seller, or, if such price has not been paid, to relieve the

ALARM

Buyer of all obligation to pay the sum by the issue of a credit note in favour of the Buyer in the amount of such price.

6. In respect of all Goods supplied to the Seller by a Third Party Supplier the Seller will on request pass on to the Buyer (in so far as reasonably possible) the benefit of any warranty given to the Seller by such Third Party Supplier and will (on request) supply to the Buyer details of the terms and conditions of such warranty and copies of any relevant product information sheets, technical data sheets or product leaflets issued by such Third Party Supplier and the Buyer shall be solely responsible to the entire exclusion of the Seller for complying with the same.
7. For the purposes of Condition 1 references to Goods shall be deemed to exclude software.
8. The Buyer acknowledges that software in general is not error-free and agrees that the existence of such errors in the Software Programs shall not constitute a breach of this Contract.
9. In the event that the Buyer discovers a material error which results in the Programmed Products not performing substantially in accordance with the Functional Specification, or the Licensed Programs not performing substantially in accordance with the relevant Program Documentation and notifies the Seller of the error within 90 days from the date of the Seller making available the respective software to the Buyer (the **`warranty period'**) the Seller shall at its sole option either refund the price which the Buyer has paid to the Seller (or if such price has not been paid, relieve the Buyer of all obligations to pay the sum) in respect of the respective software or use all reasonable endeavours to correct by patch or new release (at its option) that part of the software which does not so comply provided that such non-compliance has not been caused by any modification, variation or addition to the software not performed by the Seller or caused by its incorrect use, abuse or corruption of the software by use of the software with other software or on equipment with which it is incompatible,
10. To the extent permitted by English law, the Seller disclaims all other warranties, with respect to the software which it provides pursuant to the Contract, either express or implied, including but not limited to any implied warranties of satisfactory quality or fitness for any particular purpose.
11. The Buyer is solely responsible for various scanning the software that it receives from the Seller pursuant to the Contract.
12. The Seller warrants that it will use reasonable skill and care in providing the Services to the buyer

Minimum System Requirements

The minimum recommended PC hardware to run FUSION ALARM is dictated by the OS (Operating System) you are running I.E. that recommended by Microsoft for running a particular OS. FUSION ALARM also requires:

1. One free Serial RS232 port
2. SVGA 1024 x 768 colour monitor
3. Supported Digital I/O card
4. Correctly installed OS drivers for the supported digital I/O card

Recommended operating systems for FUSION ALARM are:

1. Microsoft Windows 2000
2. Microsoft Windows XP (default new installation unless specified)

Appendix A

FUSION ALARM Start-up Procedure

Normally when your FUSION ALARM workstation is powered-up, after being shut down in the recommended way, after loading Windows it will automatically boot straight into the FUSION ALARM application. If it fails to do this you can run the FUSION ALARM application by double clicking the FUSION ALARM icon from the desktop.

FUSION Recovery Procedure

If FUSION ALARM fails to respond to user input the program or operating system might have crashed. The problem may manifest itself in a number of ways EG a Windows error screen may appear advising the application is about to close, the appearance of the egg-timer icon indicating the system is executing a command; but never completes it resulting in a 'locked-up' appearance; ETC

Fault Logging and Reporting

In order for faults to be fixed in future releases of Windows and FUSION ALARM it is important that all faults are logged and reported to Meyertech.

When you experience a fault please note down as much information as you can about the status of the system when the fault occurred IE:

- What operation, if any was being performed at the time the fault occurred?
- If there are any error messages on the screen please carefully note them down before clearing them.
- How did you rectify the fault EG reset the PC

General Recovery from a Fault

If a minor fault occurs recovery can normally be achieved by simply closing the FUSION ALARM application and then restarting the application. If the problem persists you may have to restart Windows by quitting FUSION ALARM and restarting Windows.

Recovery from a Major Fault

Recovery from a more serious fault may mean you cannot exit FUSION ALARM. In this case follow the procedure below:

1. Locate the PC keyboard and press Ctrl, Alt, Delete simultaneously.
2. A pop-up window will appear giving you the option to end applications, which are currently running.
3. Select 'Meyertech Fusion Alarm' followed by 'End Task'
4. Restart FUSION ALARM by double clicking the FUSION ALARM icon on the desktop.

Alternatively if Ctrl, Alt, Delete does not work. Locate the PC and press the reset button. If the PC does not have a reset button power-down the PC, wait five minutes and then power-up the PC. The workstation will automatically 'Boot-up' into the FUSION ALARM application.

If all of the above fail it is possible data corruption has occurred. You may have to:

1. Re-install FUSION ALARM
2. Please contact Meyertech Support